

## REMARKS

The above-identified application is United States application serial number 10/713,515 filed on November 11, 2003. Claims 1-21 are pending in the application. Claims 1-21 are rejected under 35 U.S.C. § 102(a/e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over, Hartmann (U.S. Patent No. 6,588,703). The Examiner states that Hartmann appears to disclose all the features of the claimed invention however if certain detailed steps are not inherent they would be obvious to one having ordinary skill in the art in the optimizing of the flow around the wing and nacelle. Applicant respectfully traverses these rejections and submits that the features set forth in the claims are not disclosed, suggested, obvious, or inherent in view of the Hartmann reference.

### *The Hartmann Reference*

Hartmann discloses the use of a shroud 108 (FIG. 7b) around the inlet portion of an engine to cancel nacelle shock and allow the tailored area/lift distribution to be met. Hartmann also describes using the reflexed wing to further reduce nacelle shock. See Hartmann, Col. 4 line 54 through Col. 5 line 20. Hartmann also discloses carrying lower pressure above the wing 106a relative to below the wing 106b (also known as lift) to the back end of the vehicle to decrease an expansion spike to prevent aft shock coalescence behind the trailing edge of the wing. Hartmann, Col. 5 line 62 through Col. 6 line 8. Hartmann further states that the lower pressure on the upper surface of the wing should have its camber designed to generate this spike (shown in FIG. 2) when it spills off the back end of the wing. The camber design for the spike can be done in conjunction with the mid-body induced expansion described above. Id. Such description in Hartmann does not anticipate or make obvious the features set forth in the claims, however.

### *Rejection of Claims Under 35 USC 102(b)*

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.

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1987). "In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether [t]he disclosure...provide[s] an enabling disclosure of the desired subject; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation." MPEP § 2121.01.

In the present instance, Hartmann does not discuss the features included in the present claims. Further, these features would not have been known to one skilled in the art without undue experimentation, and therefore the claims are not enabled or anticipated by Hartmann. For example, there is no detail or even any suggestion in Hartmann to use constraints that force cancellation of only positive pressures under a reflexed wing as set forth in independent Claims 1 and 14.

There is also no teaching or even a suggestion in Hartmann to use constraints that force the slope of the reflex angle to be greater than or equal to zero as set forth in independent Claims 1, 9, and 15.

There is further no detail or suggestion in Hartmann to vary the thickness of a nacelle under the reflexed portion of the wing to meet the pressure constraint, as set forth in Claims 4, 12, and 14.

There is further no detail or suggestion in Hartmann to smooth the shape of the reflexed airfoil portion along the local Mach angle lines, as set forth in Claims 2 and 16.

There is further no detail or suggestion in Hartmann to determine the shape of the reflexed airfoil portion along the span of the wing with and without accounting for the nacelle boundary conditions, as set forth in Claims 3 and 17.

There is further no detail or suggestion in Hartmann to redistribute the depth of the reflexed airfoil portion such that the reflex depth is at or below a desired wing thickness curve across at least a portion of the span of the wing, as set forth in Claims 5 and 18.

There is further no detail or suggestion in Hartmann to shift the start of the reflexed airfoil portion in front of the inlet of the nacelle to reduce spillage of subsonic airflow in the inlet as set forth in Claims 8, 11 and 21.

There is further no detail or suggestion in Hartmann to include an inboard gull dihedral portion, as set forth in Claim 10.

Hartmann further does not disclose or suggest a diverter coupled between the nacelle and the wing, wherein the diverter is shaped to maintain positive pressure under the reflexed airfoil portion to the trailing edge of the wing, as set forth in Claim 13.

There is nothing in Hartmann that teaches or suggests these features described above in the claims would have been known or discovered even by one skilled in the art involved in optimizing flow around the wing and nacelle. The standard for anticipation requires that one skilled in the art could combine the publication's description of the invention with his own knowledge to make the claimed invention at the time the invention was made. MPEP § 2121.01. The Examiner has not provided any support for the premise that the features set forth in the claims were known or would have been obvious to one skilled in the art. Further, the Hartmann reference does not enable the features set forth in the present claims as required under the standard set forth in MPEP § 2121.01. Accordingly, withdrawal of the rejection of Claims 1-21 as being anticipated by Hartmann is respectfully requested.

*Rejection of Claims Under 35 USC 103(b)/Inherency*

"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP § 2143. In the present case, Hartmann does not teach or suggest all the claim limitations, as highlighted above in the discussion of the rejections of the claims under 35 U.S.C. 102(b), nor is there any motivation or suggestion provided in the prior art to modify the teachings of Hartmann to provide the claimed features. Thus, Hartmann does not anticipate or make obvious the features set forth in the claims.

Further, the features set forth in the Claims are not inherent. "To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily

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present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). The term “inherent” is defined as “existing in someone or something as a natural and inseparable quality, characteristic, or right; innate; basic; inborn.” Webster’s New World Dictionary, Third College Edition, (Simon & Schuster, 1988). Applicant fails to understand how any of the features set forth in Claims 1-21 are inherent to the Hartmann disclosure. Such features are not shown or described in Hartmann, and were not known to one skilled in the art at the time the invention was made.

*Request for Further Rationale of Rejections*

The Examiner did not cite specific portions of Hartmann to support his rejection of the claims. Applicant respectfully requests further explanation and citations to relevant portions of the references to support the Examiner’s position for each claim if the claims are still determined to be anticipated, obvious, and/or inherent.

**CONCLUSION**

In view of the remarks set forth herein, Applicant believes Claims 1-21 are in form for allowance and a notice to that effect is solicited. In the event it would facilitate prosecution of this application, the Examiner is invited to telephone the undersigned at (949) 251-0250.

I hereby certify that this correspondence is being facsimile transmitted to the USPTO, Central Number at (703) 872-9306 on the date shown below

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July 19, 2004  
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Respectfully submitted,

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